



Department of Executive Services
Finance and Business Operations Division
Procurement and Contract Services Section
206-684-1681 TTY Relay: 711

INVITATION TO BID

DATE ISSUED: March 26, 2004

ITB Title: **TRUCK, FLATBED, MEDIUM DUTY, WITH 17-TON CRANE**

ITB Number: **IT12661-AAB**

Due Date: **April 6, 2004 - 2:00 P.M.**

Buyer: **Amon Billups, amon.billups@metrokc.gov, (206) 263-4270**

ADDENDUM NO.1

This addendum is issued to revise the original Invitation to Bid ITB 12661-AAB, advertised March 11, 2004, as follows:

1. Change the bid opening date from March 30, 2004, to Tuesday, April 6, 2004, at 2:00 P.M. exactly.
2. Replace Section 6 –Technical Specifications, with Section 6 – Technical Specifications (Rev.1), attached. Return of original Section 6 pages is not required.

TO BE ELIGIBLE FOR AWARD OF THIS INVITATION TO BID, THIS ADDEMDUM MUST BE SIGNED AND SUBMITTED ALONG WITH THE ORGINAL INVITATION TO BID OR UNDER SEPARATE COVER.

PRE-BID CONFERENCE

Sealed Bids are hereby solicited and will **ONLY** be received by:

King County Procurement Services Section
Exchange Building, 8th Floor
821 Second Avenue
Seattle, WA 98104-1598

Office Hours: 8:00 a.m. - 5:00 p.m.
Monday - Friday

BIDDERS MUST COMPLETE AND SIGN THE FORM BELOW (TYPE OR PRINT)

Company	Address	City / State / Postal Code
Authorized Representative / Title	Signature	Phone
Company Contact / Title	Email	Phone
Delivery guaranteed: <input type="checkbox"/> Yes <input type="checkbox"/> No	Days after order:	Prompt Payment Discount Terms: ____ %- ____ Days, Net ____

This Invitation to Bid will be provided in alternative formats such as Braille, large print, audiocassette or computer disk for individuals with disabilities upon request.

SECTION 6 - TECHNICAL SPECIFICATIONS (REV.1)

MINIMUM SPECIFICATIONS FOR ONE (1) OR MORE 2004, TANDEM AXLE,
MEDIUM-DUTY FLATBED TRUCK WITH A 17-TON CRANE.

The application of this vehicle will be to tow a loaded trailer weight of 18,000 lbs. Unless otherwise stated, all specifications in this document shall be for the completed vehicle. It will be the responsibility of the contractor to ensure that the vehicle shall meet all performance specifications in this contract and any legal requirements. The engine, transmission, and differential gear ratios shall be such that the specifications are met.

MINIMUM SPECIFICATION

STATE ITEM OFFERED

6-1 Chassis Specifications

- A. FRAME:
1. The frame shall be sized to accept installation of a 17-ton boom and body as required to meet the performance requirements of this document. All frame steel cross members and gussets shall be heavy duty. All components will be secured with huck bolts, except battery box, fuel and air tanks.

2. The frame shall meet the specifications set forth by the crane manufacturers. These specifications shall include but not be limited to: the wheelbase, the frame size, the Gross Vehicle Weight (GVW), and the RBM. The truck manufacturer shall provide a frame rated 25% greater than required by the crane manufacturer for reliability and safety reasons.

3. Please state the following:

a. Frame, Steel PSI

b. Frame, Section Modulus

c. Frame, Resistance to Bending Moment

d. Minimum required by crane manufacturer: (SM & RBM):

- B. FRONT AXLE:
1. The minimum front axle shall be a 14,600 lb capacity, (Dana Spicer or approved equivalent). The axle shall meet or exceed the performance requirements set forth in this document.

2. Oil bath front wheel bearings with visible oil hub caps and fill plug.

- C. FRONT SUSPENSION:
1. The front suspension shall be a taper leaf spring with shocks sufficient to meet the performance requirements set forth in this document. The minimum front suspension capacity shall be 14,600 lbs.

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- D.
REAR SUSPENSION:
1.
The rear suspension shall be Chalmers high stability, high mount with shock absorbers **with #29 high stability can**. The capacity of rear suspension shall be 40,000 lbs min.
- E.
REAR AXLE:
1.
The rear axles shall be tandem drive, ("Dana Spicer DS404" or approved equivalent), with a minimum 40,000 lb capacity. The capacity of the rear axle shall meet or exceed the performance requirements of this document.
2.
Shall be "Haldex" brand automatic slack adjusters
- F.
STEERING:
1.
Shepard, or approved equal, shall be rated 14,600 lbs min. with remote cooler and four-quart reservoir. The steering limits shall be set to provide the maximum available turning radius **to meet SAE standards of plus or minus 1.5 feet**
- G.
DRIVELINE:
1.
The drivelines shall be sized to match the drive components of the completed vehicle.
- H.
PERFORMANCE:
1.
Cruising speed: The truck shall be capable of maintaining a cruising speed of 65MPH when the combined weight of the truck and 3-axle trailer is 60,000 Lbs. and traveling on a grade of 1.5% on normal paved highway. The low gear Startability at 60,000 Lbs. on pavement shall not be less than 25%. The Bidder shall submit a performance report or analysis prepared by the engine or truck manufacturer that shows low gear Startability, mid range and cruising speed Gradeability, and reserve HP available at highway speed.
- I.
ENGINE:
1.
The Engine shall be a Caterpillar brand, C7, C9, or C11, 2004 certified and compliant. It shall have a minimum of 300 hp @2200 RPM with sufficient capacity to meet or exceed all performance requirements in this document.
2.
The following features of the engine ECM shall be programmed as follows:
- a.
No load high idle – 1400 RPM
- b.
Engine protection shut down shall be activated.
- c.
Remote throttle and remote stop with factory installed wiring and connector
3.
The engine shall be equipped with a block heater.

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4. LH horizontal exhaust to exit in front of rear axle.	
5. Spin style fuel filter with water separator and engine mounted primer pump.	
6. Bendix 13.2 CFM Air Compressor or equivalent.	
7. Two (2) 12-volt batteries. Batteries shall have at least 1500 cold cranking amps (CCA) and be maintenance free. (Provide 1900 CCA minimum for 9 Liter and larger engines)	
J. TRANSMISSION:	
1. The transmission shall be an Allison World model 3000RDS or 3500RDS, matched to engine power output (Bidder shall provide the 3500RDS series if the torque rating of the engine is 800 Lb./Ft. or less, and the 3000RDS series if the torque rating is greater than 800 Lb./Ft. with appropriate gearing to provide a minimum Startability on paved highway of 25%.) The transmission shall be automatic, and when coupled to the engine selected, shall meet or exceed all performance requirements of this document. The transmission shall be arranged to accept a side mounted "PTO" pump. The transmission shall be equipped with a minimum of 5 speeds and a hot shift PTO.	
2. The transmission ECU shall be programmed and wired to properly interface with the engine. It shall also be programmed and wired for proper operation of the PTO, including PTO Enable to protect the PTO clutches from improper engagement speeds. The shift selector shall be electronic touch keypad design dash mounted. The transmission shall automatically shift to neutral when the parking brake is applied.	
K. AIR SYSTEM:	
1. Manufacturer's standard air system with proper intake filtering shall be provided. The system shall include a standard truck trailer air supply package.	
2. The air dryer shall be a Bendix AD-IP desiccant type with nylon chassis hose. Dryer to be frame mounted and located for easy maintenance. The heater function of the air dryer must be functional.	
L. BRAKES:	
1. Front Brakes shall be air operated, Dana Spicer ES S-cam, or equivalent, 16.5" x 5" full air brake, and shall be of sufficient capacity to meet or exceed all performance requirements of this document.	
2. Rear brakes shall be Dana Spicer ES S-Cam, or equivalent, 16.5" x 7" full air brakes.	

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<div> 3. The brake block material shall be made of a non-asbestos compound and shall be rated FF. The brakes shall be “extended life”. </div>	<div></div>
<div> 4. The braking capacity shall meet or exceed all local, state and federal regulations governing this type of vehicle for anticipated load. </div>	<div></div>
<div> M. FUEL TANK: </div>	
<div> 1. Truck shall be equipped with an aluminum 50-gallon capacity diesel fuel tank with two steps. The tank shall be mounted forward under the passenger door for improved weight distribution. A single fuel level indicator gauge shall be included with the dashboard instruments. </div>	<div></div>
<div> N. BATTERY BOX: </div>	
<div> 1. Battery box shall be mounted under the driver’s door with non-slip steps. In no case shall the batteries be mounted along the frame “aft” of the vehicle cab. </div>	<div></div>
<div> O. TRUCK ELECTRICAL: </div>	
<div> 1. Truck must have a 12-Volt electrical system with a 130-amp alternator. </div>	<div></div>
<div> 2. Minimum Two (2) batteries shall be 12-Volt, side terminal, maintenance free with min. 1500 CCA’s, (1900 CCA’s if 9.0 Liter or greater engine is provided.) </div>	<div></div>
<div> 3. The truck shall be equipped with an electric back up alarm. The alarm shall have a rating of 107-dB (A). The alarm shall be activated when the transmission is in reverse. </div>	<div></div>
<div> P. LIGHTING: </div>	
<div> 1. Headlights: Halogen, 2 or 4 lamps, depending on the vehicle design. </div>	<div></div>
<div> 2. The completed vehicle must include the following lights: Two Truklite Series 40 non-LED backup lights. Truklite LED series clearance lights, identification lights (cab and flatbed), license light, mid-side turn signal lights, two Truklite Series 44 6-diode combination stop/tail lights and turn signal/hazard lights. Daytime running lights and door courtesy lights. A centralized power distribution with color-coded & numbered wiring. </div>	<div></div>
<div> 3. The truck shall include left and right map lights and one dome light. The dome light shall be activated when either door is opened and by a manual switch. A separate manual switch for each light shall activate the map lights (the switch may be integral with the light assembly). </div>	<div></div>
<div> 4. All instrument lighting shall be rheostat controlled. </div>	<div></div>
<div> 5. All wiring shall have soldered terminals with sealed type connectors at all exterior points. </div>	<div></div>

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Q. CAB:

1. Aluminum & fiberglass construction with curved wrap-around post-free windshield.
2. Driver’s seat and additional two-man bench seat will be equipped with seatbelts for three people. Seat upholstery shall be of heavy-duty Dupont Cordura or Mordura Cloth. (Driver’s seat options for safer, more comfortable seating will be considered, please provide literature.)
3. The windshield shall be a wrap around design. Tinted safety glass shall be used for the windshield and side windows. Safety glass shall be laminated.
- The side windows shall be roll up, with a drop down design for added visibility. The right side window shall be electrically operated. The control switch shall be easily reached from driver’s seat and the right side passenger seat. A safety-viewing “peeper” window shall be in the lower right side door **or the right side shall have a look down convex mirror**
4. Windshield wipers shall be electric, multiple speed with an intermittent feature. The wipers will include a windshield washer system. The wiper and washer controls shall be mounted on the turn signal lever **or dash mounted.**
5. Heater/Air-conditioner: High capacity heater/air conditioning system with recirculation and fresh air control. Ball style shut off valves for heater lines shall be supplied. The valves shall be mounted to the engine or the radiator end of the hoses. The heater shall be capable of maintaining 60°F cab temperature with 0°F ambient temperature. The defrost system shall be sufficient to keep the windshield clear under all conditions encountered in the King County area.
6. The right and left mirrors shall be motorized mirrors, 7” x 16” minimum size. Both mirrors shall include 4-way electrically operated adjustments. Separate 8” heated stainless steel convex mirrors shall be mounted on each side. All mirrors shall be heated. Controls for the mirrors shall be within easy reach of the driver. Foldaway design, heated motorized aerodynamic mirrors.
7. Additional non-heated mirrors shall include a right side fender mounted convex mirror on tri-pod or swing arm bracket and a right side door mounted convex down view mirror.
8. Dual **tone** electric horns shall be provided. A single steering wheel horn button shall control the electric horns.
9. Dual **tone** air horns shall be provided. An interior roof panel pull cord **or switch in steering wheel** shall control the air horns.

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10. The ignition and doors shall be keyed alike. 5 keys shall be provided for each unit at time of delivery.	
11. Instrument Panel - shall include but not be limited to the following gauges: Speedometer, tachometer, primary air pressure, secondary air pressure/accessory air pressure, ammeter or voltmeter (12 or 12/24 volt systems), engine oil pressure, engine coolant temperature, fuel level, transmission oil temperature, clock, and service brake air pressure. Gauges should be frontloading with push-on electrical connections to ease replacement.	
12. Accessory adapter shall be provided.	
13. Warning lights and buzzers must be provided for, but not limited to the following systems: low air pressure, low oil pressure, low coolant level and hot engine. Indicator lights must be provided for, but not limited to the following: Alternator low charge, parking brake applied PTO engaged, inter-axle engaged, high beam and turn signals. All indicator and warning lights shall be in view of the driver and shall be equipped with a bulb checking function.	
14. Equipped with tilt out modular dash panel to expose color-coded and numbered cab wiring for quick circuit tracing.	
15. Control switches and levers shall be permanently labeled	
16. AM/FM radio.	
17. Full width exterior sun visor.	
18. Dual interior sun visors and door arm rests.	
19. Rubber floor covering plus area mats on driver and passenger side.	
20. All exterior trim and fasteners must be stainless steel.	
R. TIRES & WHEELS:	
1. Two (2) Hub Pilot 12/R22.5. One additional matching 12/R22.5 front tire shall be included for a spare. Front tire tread shall be rated for Urban Service with heavy-duty sidewall construction and wear shoulders. (State Make and Model to be provided.)	
2. Eight (8) 11/R 22.5 traction rear tires. One additional matching 11/R 22.5 traction tire shall be included with each truck for a spare. Rear tire tread shall be rated for Urban Service with heavy-duty side wall construction and wear shoulders. (State Make and Model to be provided).	
3. All tires (including spares) shall be mounted on unpolished aluminum wheels. The wheels shall be hub piloted 10-Bolt.	

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<div> <div>4.</div> <div>Weight specifications for the tires and wheels supplied shall meet or exceed the anticipated loads listed in this document.</div> </div>	<div></div>
<div> <div>S.</div> <div>PAINT:</div> </div>	<div></div>
<div> <div>1.</div> <div>The completed vehicle shall be painted white. Paint options shall be reviewed and approved by KC Metro.</div> </div>	<div></div>
<div> <div>T.</div> <div>FRONT BUMPER:</div> </div>	<div></div>
<div> <div>1.</div> <div>The front bumper shall be designed to follow the contours of the front of the truck and keep turning radius to a minimum. Note: If a front stabilizer is required for continuous or forward crane operation, then the bumper shall be attached to a heavy-duty integral front frame extension designed and capable for this purpose. The bumper shall not extend more than 6 inches for this purpose.</div> </div>	<div></div>
<div> <div>U.</div> <div>Outriggers & A-frame Stabilizers:</div> </div>	<div></div>
<div> <div>1.</div> <div>Two hydraulically actuated rear stabilizers shall be provided. They shall be attached to the crane body. A pair of hydraulic control levers for individual operation of each stabilizer shall be conveniently located at the rear of the cab on both sides of the truck. Stabilizer controls must be separate from boom controls. To include a safety cut out that will not allow the truck to move.</div> </div>	<div></div>
<div> <div>2.</div> <div>The A-frame stabilizers shall be 8' retracted, 10' extended and operated independently for precise leveling. Double acting hydraulic cylinders. Flat Pads should be 10-3/4" by 11-1/2" with flared leading edge.</div> </div>	<div></div>
<div> <div>3.</div> <div>Single front bumper outrigger for 370 Degree operation with safety cut out wired to the automatic transmission range inhibit circuit, to prevent truck from moving with stabilizer down. (Switches located at the outriggers shall be magnetic proximity type or weatherproof.)</div> </div>	<div></div>
<div> <div>V.</div> <div>BOOM:</div> </div>	<div></div>
<div> <div>1.</div> <div>The truck shall have a 17-ton extendable boom, 3-section telescoping type, to extend and retract proportionally by a double acting hydraulic cylinder and cable system. Maximum extended tip height 120' when removable jib is installed. Crane to be mounted behind cab. The system shall meet OSHA safety requirements and shall be overrideable. Unit shall include a jib boom.</div> </div>	<div></div>

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2. Boom points shall be **two** non-metallic sheaves mounted on bronze bushings. Each sheave assembly will have zerks grease fittings. Boom nose shall contain an integral bushing for installing of an optional jib/platform.
3. Dual control stations for boom functions shall be located on side up front towards cab. Complete control sets shall be provided on the left and right side. Each station shall be equipped with four single-lever crane controls arranged to ANSI B30.5 standards, individual control levers for each outrigger and stabilizer, engine start/stop, foot throttle, signal horn, boom angle indicator, bubble level, lifting capacity chart and range diagram.
4. Two speed planetary reducer with 10,500 maximum line pull, 200 fpm line speed. Wire rope 270 feet of 9/16in diameter 6x37 EIPS IWRC tight regular lay.
5. Five-ton capacity load hook.
6. Swing system externally mounted, double reduction planetary driven by hydraulic motor. Maximum swing speed 1.5 rpm. 370-degrees non-continuous rotation.
7. Hydraulic system shall be three-section gear pump direct-mounted to PTO.
8. Hydraulic tank to be of manufacturers design

W. MOUNTING:

1. Sub frame to be torsionally resistant rigid 4-plate design, or approved equivalent, mounted under crane full length of truck frame
2. Boom rest to be heavy-duty fabrication and easy to remove for simplified loading/unloading of truck deck.
Shall be non-hinged design.

X. LUBRICATION:

1. All movable points on any part of the boom and stabilizers shall use bearings or bushings. Each of these points shall include a zerk fitting for lubrication. The points shall include, but not be limited to, all parts of the boom, winches, and stabilizers.

6-2 Truck Bed Specifications

A. TRUCK BED:

1. The truck bed shall be 20Ft. long and decking shall be rubber, tongue and groove 2" x 6", with the coarse side up.
2. **Right and left hand toolboxes shall be mounted under platform bed.** All tool compartments shall be lighted **and** powered by a separate circuit breaker **and cab mounted switch.**

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3.
28,000 lb capacity pintle hitch, rear mounted, extended one foot beyond rear of deck to maximize turning ability of truck. Hitch height shall be twenty-four (24) inches. Provide 90-degree radius between truck and trailer. To include trailer brake connections, 7 wire ICC electrical connection and safety chain anchor. The electronic trailer brake controller to be installed in the cab.
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6-3 Warranty:

- A.
Entire unit shall be covered by a twenty-four (24) month parts and labor warranty. Powertrain shall be warranted for two (2) years or 200,000 miles. The successful bidder shall be responsible for the correction of all defects.
-
- B.
A full time complete parts and service facility offering factory authorized service and parts supply adequate to perform complete repair is required. Facility must be within a fifty (50) mile radius of the vehicle delivery address.
-
- C.
Quote price for factory available warranty programs, above and beyond the base warranty. Supply printed literature with bid.
-
- D.
Inspection of successful bidder’s parts and service facility may be required before bid award.
-
- B.
Warranty shall begin on date unit is placed into service, not delivery date. Vendor will be notified.
-
- C.
Copies of all applicable warranties must be submitted with bid package. Additional data entry form shall be completed and delivered with vehicle.
-

6-4 General:

- D.
Only new models in current production, which are cataloged by the manufacturer and for which printed literature and specifications are available, are acceptable.
-
- E.
All standard equipment and components necessary for operation and normally supplied shall be furnished, even if not called out in specifications.
-
- F.
All equipment shall be new. Used, demonstration rebuilt or remanufactured equipment is unacceptable.
-
- G.
A performance demonstration may be required before bid award. The performance demonstration will be of unit per basic specifications.
-
- H.
The equipment shall have full dealer preparation and be ready for service when delivered.
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6-5 Training:

- A. The contractor shall provide training given by a factory-approved trainer. The training will be for KC Metro personnel. Training for two KC vehicle maintenance personnel shall include operation, safety, troubleshooting, and systems operation. Additional training will be given for two KC Metro operators per unit purchased. The training shall be conducted at KC properties, to be scheduled at a time mutually agreeable with the contractor and KC Metro.
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6-6 Documents And Parts To Be Supplied With Delivery:


- Title application for each unit delivered.
- Manufacturer's statement of origin for each unit delivered.
- Original billing invoice.
- Certified weight slip for unit.
- Two (2) complete sets of filters to be supplied with each unit ordered.

6-7 Manuals To Be Supplied With Each Truck:

- Two (2) "complete" lubrication charts per vehicle covering the entire vehicle (truck & crane).
- Two (2) "complete" technical service manuals per vehicle covering the entire vehicle (truck & crane).
- Two (2) "complete" parts manuals per vehicle covering the entire vehicle (truck & crane).
- Two (2) operators parts manuals per vehicle.
- Two sets per vehicle: specifications, drawings and descriptions of all equipment (Including but not limited to) electrical systems, air systems, and hydraulic systems,

BID OPENING LABEL

Complete the form below (or a reasonable facsimile thereof) and affix to the exterior lower left hand corner of the submission package.

U R G E N T – SEALED BID ENCLOSED Do Not Delay – Deliver Immediately	
U R G E N T	 King County King County Procurement & Contract Services Section Exchange Building, 8 th Floor 821 2nd Ave., EXC-FI-0862 Seattle, WA 98104-1598
	Bid No. IT12661-AAB
	Bid Title Truck, Flatbed, Medium Duty, with 17-Ton Crane
	Due Date
	Vendor
U R G E N T	